

Sub
A1

1. In a database management system that includes a database engine that accesses and updates objects in a database, the database engine receiving high-level document commands, each high-level document command for performing an operation on a document that is associated with a plurality of tables in the database, a method for allowing client applications to control how a particular high-level document command is implemented in the database, the method comprising the following:

- an act of receiving a high-level document command meeting certain criteria;
- an act of identifying one or more client applications that are to be notified of the implementation of the high-level document command;
- an act of notifying the one or more identified client applications that a high-level document command meeting the certain criteria has been received;
- an act of receiving instructions from the one or more client applications on how to affect the implementation of the high-level document command in the database; and
- an act of following the received instructions when implementing the high-level document command, or not implementing the high-level document command at all if the received instructions so indicate.

Sub
A1

2. The method in accordance with Claim 1, wherein the received instructions are for performing additional high-level document commands in addition to the received high-level document command.

3. The method in accordance with Claim 2, wherein the additional high-level document commands and the received high-level document command are implemented atomically in the database.

4. The method in accordance with Claim 3, wherein the additional high-level document command and the received high-level document command are implemented atomically using a group operation.

5. The method in accordance with Claim 1, wherein the received instructions are for changing how the high-level document command is to be implemented in the database.

6. The method in accordance with Claim 1, wherein the received instructions are for preventing the high-level document command from being implemented at all in the database.

7. The method in accordance with Claim 1, wherein the high-level document command is for performing an operation on an electronic mail message.

8. The method in accordance with Claim 1, wherein the high-level document command is for performing an operation on a folder that contains electronic mail messages.

[illegible]

1 SW 3 9. The method in accordance with Claim 1, wherein the high-level document
2 A-3 command is for moving a document.

10. The method in accordance with Claim 1, wherein the high-level document command is for deleting a document.

11. The method in accordance with Claim 1, wherein the high-level document command is for copying a document.

12. The method in accordance with Claim 1, wherein the high-level document command is for updating a document.

13. The method in accordance with Claim 1, wherein the high-level document command is for adding a document.

14. The method in accordance with Claim 1, wherein the act of notifying the one or more identified client applications comprises an act of transmitting a message to a machine that hosts the client application, the machine that host the client application being different than the machine that hosts the database management system.

15. The method in accordance with Claim 1, wherein the act of notifying the one or more identified client applications comprises an act of passing the notification through a function call to the identified client application, the client application hosted by

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24

the same machine as at least the portion of the database management system responsible for performing the act of notifying the client applications.

16. The method in accordance with Claim 1, wherein the act of receiving instructions from the one or more client applications occurs prior to the act of receiving the high-level document command.

Sub
A4

1 17. In a database management system that includes a database engine that
2 accesses and updates objects in a database, the database engine receiving high-level
3 document commands, each high-level document command for performing an operation on
4 a document that is associated with a plurality of tables in the database, a method for
5 allowing client applications to control how a particular high-level document command is
6 implemented in the database, the method comprising the following:

7 an act of receiving a high-level document command meeting certain criteria;
8 and

9 a step for allowing one or more client applications to affect how the
10 received high-level document command is to be implemented, if at all, in the
11 database.

12
13 18. The method in accordance with Claim 17, wherein the step for allowing one
14 or more client applications to affect how the received high-level document command is to
15 be implemented comprises the following:

16 an act of identifying one or more client applications that are to be notified
17 of the implementation of the high-level document command;

18 an act of notifying the one or more identified client applications that a high-
19 level document command meeting certain criteria has been received;

20 an act of receiving instructions from the one or more client applications on
21 how to affect the implementation of the high-level document command in the
22 database; and
23
24

[illegible]

A PROFESSIONAL CORPORATION
ATTORNEYS AT LAW
1000 EAGLE GATE TOWER
60 EAST SOUTH TEMPLE
SALT LAKE CITY, UTAH 84111

Docket No. 13768.173

1 19. A computer program product for use in a database management system that
2 includes a database engine that accesses and updates objects in a database, the database
3 engine receiving high-level document commands, each high-level document command for
4 performing an operation on a document that is associated with a plurality of tables in the
5 database, a computer program product for implementing a method for allowing client
6 applications to control how a particular high-level document command is implemented in
7 the database, the computer-program product comprising a computer-readable medium that
8 contains computer-executable instructions for performing the following:

9 an act of detecting the receipt of a high-level document command meeting
10 certain criteria;

11 an act of identifying one or more client applications that are to be notified
12 of the implementation of the high-level document command;

13 an act of causing the one or more identified client applications to be notified
14 that a high-level document command meeting certain criteria has been received;

15 an act of detecting the receipt of instructions from the one or more client
16 applications on how to affect the implementation of the high-level document
17 command in the database; and

18 an act of following the received instructions when implementing the high-
19 level document command, or not implementing the high-level document command
20 at all if the received instructions so indicate.

21
22 20. The computer program product in accordance with Claim 19, wherein the
23 computer-executable instructions for performing the act of following the received
24

instructions comprise computer-executable instructions for performing additional high-level document commands in addition to the received high level document command.

21. The computer program product in accordance with Claim 20, wherein the computer-executable instructions for performing additional high-level document commands comprise computer-executable instructions for atomically implementing the additional high-level document commands and the received high-level document command in the database.

22. The computer program product in accordance with Claim 19, wherein the computer-executable instructions for performing the act of causing the one or more identified client applications to be notified comprise computer-executable instructions for performing an act of causing a message to be transmitted to a machine that hosts the client application, the machine that host the client application being different than the machine that hosts the database management system.

23. The computer program product in accordance with Claim 19, wherein the computer-executable instructions for performing the act of causing the one or more identified client applications to be notified comprise computer-executable instructions for performing an act of passing the notification through a function call to the identified client application, the client application hosted by the same machine as the computer-executable instructions for performing the act of causing the one or more identified client applications to be notified.

1
2
3
4
5
6
7
8
9
0
1
2
3
4
5
6
7
8
9
0
1
2
3
4

[illegible]

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24

Sub
A6

25. A database management system for implementing high-level document commands for performing an operation on a document, each document being associated with a plurality of tables in an underlying database, the database management system comprising:

a database application that is configured to send high-level document commands;

a notification component that is configured to send a notification to any identified client application when a given high-level document command is received by the database management system;

an instruction receiver module that is configured to receive instructions from the notified third party application on how to implement the high-level document command; and

a database engine configured to follow the received instructions when implementing the high-level document command.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24

26. In a client computer system that hosts a client application, a method of allowing the client application to influence how a high-level document command is implemented by a database management system in a database, regardless of whether the database is locally or remotely located, the method comprising the following:

an act of receiving a notification that a high-level document command meeting certain criteria has been received in the database management system; and

an act of dispatching instructions on how to implement the high-level document command.